

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Attorney Docket No. 006136.00015

In re U.S. Patent Application of:)
Ludwig Schwoerer) Examiner: Benjamin H. Elliott IV
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Application No. 10/574,350) Group Art Unit: 2474
)
Filed: April 3, 2006) Confirmation No. 2234
)
For: Method System and Receiver for)
Receiving a Multi-Carrier Transmission)

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants respectfully request review of the outstanding Final Office Action mailed November 10, 2009 ("Final Action") and the Advisory Action mailed March 2, 2010 in the above-identified application. No amendments are being filed with this request and this request is being filed with a Notice of Appeal. The review is requested for the reasons stated below. Applicants hereby petition for any applicable extension of time. If any fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-8, 15-23, and 26-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Keevill et al. (US 6,359,938) in view of Hayashi et al. (US 2005/0174929).

Claims 24 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Keevill and Hayashi, in further view of Calderbank et al. (US 6,115,427).

Applicants respectfully traverse for at least the following reasons.

First, the combination of Keevill and Hayashi, even if proper, does not disclose or suggest the claim 1 elements of "an accessor configured to access at least one symbol which is

adapted to establish a distinguishable power based pattern for pilot carriers in the at least one symbol.” The Advisory Action interprets paragraphs 206-207, and 212 of Hayashi to read on the claimed ““distinguishable power based pattern”, . . . as the pattern of signals influencing described in Figure 2 and [0084-0086].” See Advisory Action, p. 2. The Advisory Action further alleges that “Figure 2 and paragraph [0009] in combination with paragraphs [0206-028] (sic) of Hayashi disclose how the power-based pattern is established.” *Id.* at p. 2-3. Applicants respectfully disagree.

Notably, the claimed “distinguishable power based pattern for pilot carriers” recites a pattern of pilot carriers based on power, a completely different concept from the differential power calculator of Hayashi. In paragraphs 206-0207, Hayashi refers to figure 15 and discloses that a “differential power calculator 237 determines a difference between channel responses for pilot signals output from the channel response calculation section 22 and the memory 231, [and] squares the resultant difference value to obtain a differential power.” The differential power is thus determining a change in power (i.e., differential power) between channel responses of pilot signals. Hayashi’s disclosure that a differential power can be calculated based on a difference between channel responses for output pilot signals does not indicate that Hiyashi’s pilot signals have a pattern of pilot carriers based on power, nor does Hiyashi disclose or suggest performing any distinguishing between pilot signals using a power based pattern. Therefore, the Action has not shown that the pilot signals of Hiyashi have a “distinguishable power based pattern for pilot carriers,” as claimed.

Second, even if, *arguendo*, the Office still believes that Hiyashi’s differential power discloses the claimed “distinguishable power based pattern for pilot carriers,” the combination of Keevill and Hayashi, does not disclose or suggest “a block configured to establish power accumulation sums for possible pilot carriers of the at least one symbol based on the pattern,” as recited in claim 1. Emphasis added. On page 5, the Final Action concedes that Keevill does not disclose “pilot symbols having a distinguishable power based pattern.” On page 4, the Final Action asserts that Keevill discloses establishing power accumulation sums, but, because the Final Action concedes that Keevill fails to disclose power based patterns, the Final Action has necessarily also conceded that the sums of Keevill are not “based on the [distinguishable power based] pattern.”

The Action has not shown, nor even suggested, how the sums of Keevill could be established based on differential power as determined by Hiyashi in a manner similar to claim 1.

For instance, to reject the claimed accumulation sums, the Final Action cites to column 8, lines 27-37 of Keevill. *See* Final Action, p. 4-5. Keevill discloses a “method for the estimation of a frequency response of a channel.” *See* Keevill, C8, L9-10. At the cited lines, Keevill indicates “adding absolute values of a real component of the bit-order reversed signal to respective absolute values of imaginary components thereof to generate sums, and respectively storing the sums in the N accumulators.” *Id.* at C8, L27-32. The cited lines of Keevill further indicate “identifying a first accumulator having the highest of the N values stored therein, which represents a first carrier position, and by identifying a second accumulator which has the second highest of the N values stored therein, which represents a second carrier position. The interval between the first carrier position and the second carrier position is then determined.” *Id.* at C8, L32-37. Thus, Keevill relates to determining sums to indicate carrier positions.

Considering the disclosure of Keevill, one would expect that the Office would have based the conclusion of obviousness by citing to some portion of Hayashi disclosing how differential power could be used to assist in determining carrier positions based on a summing technique. To the contrary, Hayashi does not provide any such disclosure. For instance, Hayashi discusses positions of symbols and/or pilot signals in various paragraphs (*see* Hayashi, ¶5, 12, 14, 22, 84, 95, and 131), but does not indicate using differential power to assist in indicating a symbol position based on a summing technique. Moreover, the Action has not shown, nor even pointed to, any disclosure in Keevill indicating how Keevill’s sums could be established based on a differential power as determined by Hiyashi. Without the benefit of hindsight, one of ordinary skill in the art would not attempt to combine Keevill and Hayashi in the manner suggested, much less find the proposed combination renders claim 1 obvious. Applicants therefore submit that the combination of Keevill and Hiyashi, even if proper, does not disclose or suggest establishing a “distinguishable power based pattern for pilot carriers” in combination with “a block configured to establish power accumulation sums for possible pilot carriers of the at least one symbol based on the pattern,” as recited in claim 1. Emphasis added.

Lastly, the Advisory Action suggests clarifying the claimed “an accessor configured to access at least one symbol which is adapted to establish a distinguishable power based pattern for pilot carriers in the at least one symbol,” alleging that the phrase “does not distinguish to what, either a symbol of the accessor, the word ‘which’ is referring.” *See* Advisory Action, p. 3. Applicants respectfully disagree and submit that the claim language is clear as written. The word “which” in “an accessor configured to access at least one symbol which is adapted to establish a

distinguishable power based pattern for pilot carriers in the at least one symbol" means accessing at least one symbol. Accordingly, the Office has not established a *prima facie* case of obviousness to reject claim 1 and Applicants request withdrawal of the rejection under 35 U.S.C. § 103. Applicants respectfully submit that independent claim 1, as well as the remaining independent claims, is in condition for allowance. The pending dependent claims are allowable at least due to their dependence on an allowable independent claim.

Specification Objection and Rejection under 35 U.S.C. § 101

Applicants respectfully request that the panel consider the arguments made in the response filed February 11, 2010 regarding the specification objection and the rejection under 35 U.S.C. § 101, as neither was addressed in the Advisory Action.

CONCLUSION

For at least this reason, Applicants respectfully request reconsideration and reversal of the rejection. All issues having been addressed, Applicants respectfully submit that the instant application is in condition for allowance, and respectfully solicit prompt notification of the same. However, if for any reason the review panel believes the application is not in condition for allowance or there are any questions, the review panel is invited to contact the undersigned at (312) 463-5000.

Respectfully submitted,
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Date: April 12, 2010

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